



Introduction and News

Accelerator Frontier: Derun Li (LBNL), and Diktys Stratakis (Fermilab)

Energy Frontier: Kevin Black (Univ. of Wisconsin-Madison), and Sergo Jindariani (Fermilab)

Theory Frontier: Patrick Meade (Stony Brook Univ.), and Fabio Maltoni (Louvain U., CP3)

News

- ◆ New Snowmass web-page for the Muon Collider Forum (https://snowmass21.org/energy/muon_forum)
 - Pointers to past meetings and discussions
 - Links to the simulation framework and hands-on tutorials
 - Recommendations for energy/luminosity points for physics studies
 - Will be adding references to studies and performance plots as we progress
- ◆ Next Muon Collider Forum Meeting is on Sept 21st 10am-noon US Central time
 - Dedicated to potential synergies with neutrinos and heavy ion physics
 - We plan to have several more meetings dedicated to synergies with different areas of particle physics
 - Will be contacting people, but please let us know if you'd like to show something
- ◆ Talks and discussions dedicated to Muon Collider during the upcoming [EF workshop](#) (Aug 30-Sep 3, 2021)

Pointers to Recent Meetings

- ◆ [Muon Collider Physics and Detector workshop, June 2021](#)
 - Great source of information related to physics and detector R&D for a Muon Collider
 - Planning a summary paper

International Muon Collider Collaboration hosted several community meetings:

- ◆ [First Muon Collider Community Meeting](#)
- ◆ [Second Muon Collider Community Meeting](#)
- ◆ Third Meeting planned in September
- ◆ Meetings were dedicated to the test facility and the final facility
- ◆ Preparation of the report for the Laboratory Directors Group and eventually to the CERN Council.
To include findings, complete R&D list, internal priorities, resource estimates

NuFACT 2021 <https://indico.cern.ch/event/855372/>

NuFact 2021: The 22nd International Workshop on Neutrinos from Accelerators

6-11 September 2021
THotel
Europe/Zurich timezone

Enter your search term

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Conference venue

Travel and accommodation

Speaker List

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Contact

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NuFact 2021 is the twentysecond in the series of yearly international workshops which started in 1999. The main goal of the workshop is to review the progress of current and future facilities able to improve on measurements of the properties of neutral and charged lepton flavor violation, as well as searches for new phenomena beyond the capabilities of presently planned experiments. A special session on Diversity, Outreach & Education will also be held as well as a poster session.

For the 2021 edition, to comply with the different situation in the various countries concerning vaccines and travel regulations, **we will hold the conference in mixed mode**: the participants and speakers having the opportunity to travel to Cagliari (Italy) may attend the conference in person, while the others may attend and give their talks remotely.

Please, visit the main website [here](#).

Please note that abstract submission is now open only for posters (deadline 31st of July 2021).

🕒 **Starts** Sep 6, 2021, 8:00 AM
Ends Sep 11, 2021, 11:30 PM
Europe/Zurich

📍 **THotel**
Via dei Giudicati, 66, 09131 Cagliari, Italy

📎 [poster_nufact_2021.pdf](#)

📄 **Registration**
Registration for this event is currently open.

👤 316

[Register now](#)

- 6-11 September 2021
- Cagliari, Sardinia, Italy
- Open registration by 8/25
- Free for remote attendee



MC related talk (I)

- 17:35-18:05 on Sep. 06 (Europe/Zurich time): Plenary talk “Status of Muon Collider R&D” given by Daniel Schulte (CERN)
- 11:00-11:20 on Sep. 07: Special session talk “Upgrades of the ESSnuSB design required to enable tests of the Muon Collider Proton Complex” given by Tord Ekelot (Uppsala University)
- 11:20-11:45 on Sep. 07: Special session talk “A possible ultimate goal: A Muon Collider Higgs Factor based at ESS” given by Carlo Rubbia (GSSI)

MC related talk (II)

- 14:20-14:50 on Sep. 09 (Europe/Zurich time): Parallel session talk “Muon Ionization Cooling Experiment (MICE): Results & Prospects” given by Chris Rogers (STFC)
- 14:50-15:10 on Sep. 09: Parallel session talk “Normalized Transverse Emittance Reduction via Ionization Cooling in MICE ‘Flip Mode’” given by Jaroslav Pasternak (Imperial College London)
- 15:10-15:30 on Sep. 09: Parallel session talk “Transverse Emittance Change and Canonical Angular Momentum Growth in MICE ‘Solenoid Mode’ with Muon Ionization Cooling” given by Paul Kyberd (Brunel University)
- 15:30-15:50 on Sep. 09: Parallel session talk “Analysis of Multiple Coulomb Scattering of Muons in the MICE Liquid H₂ Absorber” given by Gavriil Chatzitheodoridis (Strathclyde University)

MC related talk (III)

- 16:30-17:00 on Sep. 09 (Europe/Zurich time): Parallel talk “Production of a high quality beam for the muon collider” given by Chris Rogers (STFC)
- 17:00-17:30 on Sep. 09: Open discussion about Muon Collider moderated by Katsuya Yonehara (Fermilab)

COOL 2021 <https://indico.inp.nsk.su/event/59/>



COOL 2021

1-5 November 2021
Budker INP
Asia/Novosibirsk timezone

Overview

Committees

Call for Abstracts

Delegate Registration

Participant List

Registration fee

Workshop Poster

Support

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The bi-annual 13th International Workshop **COOL'21** will be held on November 1 - 5, 2021 **in virtual mode** using ZOOM organized by [Budker Institute of Nuclear Physics SB RAS](#). The workshop will be focused on the various aspects of the cooling methods and technics of charged particles. The workshop Topics:

- electron cooling
- stochastic cooling
- muon cooling
- cooled beam dynamics
- new concepts and theoretical advancements in beam cooling
- facility status updates and beam cooling reviews

Deadline for Delegate registration - October, 25th, 2021.

Deadline for Abstract submission - September, 15th, 2021.

Workshop will be conducted as a [JACoW](#) conference series thus the standard JACoW SPMS instance for the abstract submission and proceedings uploading is <https://oraweb.cern.ch/pls/cool2021/profile.login>

*Previous meeting **COOL'19**: [site](#) and [proceedings](#)*



- 1-5 November 2021
- Budker INP, Russia
- Open delegate registration by 10/25
- **Abstract submission by 9/15**
- Only remote (Registration fee will be waived)



Starts 1 Nov 2021, 19:00
Ends 5 Nov 2021, 22:00
Asia/Novosibirsk



Budker INP
Budker INP, Lavrentiev av. 11, Novosibirsk, Russia

Today's Meeting: 125 GeV Higgs Factory

- ◆ An interesting option with a mature design based on the work by the Muon Accelerator Program
- ◆ Small footprint (few hundred meters) and relatively modest cost
- ◆ Using existing facilities: high intensity proton sources will be available at Fermilab and CERN
- ◆ Staging: Production/cooling complex can be reused for a later stage multi-TeV machine?
- ◆ Projected luminosity is significantly smaller compared to projected for e^+e^- Higgs factories (e.g. ILC or FCC-ee)
- ◆ Note: 125 GeV HF is not a primary focus of the Muon Collider Collaboration

Some Questions to Ask (1)?

- ◆ What unique physics does 125 GeV $\mu^+\mu^-$ Higgs factory achieve post HL-LHC? In the absence and presence of an e^+e^- Higgs factory
- ◆ What physics can a 125 GeV MC do that multi-TeV muon collider cannot?
- ◆ What happens if luminosity projections are improved by $\times 10$? $\times 100$?
- ◆ Does beam polarization help and how much?

Some Questions to Ask (2)?

- ◆ What integrated luminosity is reasonably achievable in 20 years? What accelerator R&D should be pursued in order to significantly improve the luminosity projection?
- ◆ What technologies can be demonstrated using 125 GeV that can later be used for a multi-TeV collider? Which parts of the 125 GeV injection complex can be reused?
- ◆ What is the approximate cost of 125 GeV facility